

# Erythromycin stearate in treating chlamydial infection of the cervix

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**SUMMARY** A total of 157 women attending departments of genitourinary medicine were treated for chlamydial infection of the cervix with erythromycin stearate 500 mg twice a day. Chlamydiae were eradicated from the cervix in 64/80 women treated for seven days and in 51/77 women treated for 14 days. In 12 of those treated for seven days and 15 of those treated for 14 days, reinfection was the probable cause of reisolation after treatment. The possibility of latent infection with *Chlamydia trachomatis* could not be excluded in five women, but was not more likely to occur with the shorter treatment course. Erythromycin stearate 500 mg twice daily for seven days appears to be an effective regimen for the treatment of uncomplicated chlamydial infection of the cervix.

## Introduction

*Chlamydia trachomatis* is an important pathogen in the female genital tract.<sup>1,2</sup> Serious complications can occur, and vigorous treatment is indicated.<sup>3</sup> Tetracyclines and erythromycin stearate have been shown to be equally effective in eradicating chlamydiae from the cervix,<sup>4-6</sup> but little information is available about the optimum dose and duration of treatment. The two to three week regimens in common use in the United Kingdom are based largely on studies of non-gonococcal urethritis in men and of chlamydial conjunctivitis.<sup>7</sup> There is, however, some evidence to suggest that treating chlamydial infection of the cervix for one week may be as effective in eradicating chlamydiae as a longer course of treatment,<sup>4,5,9</sup> although follow up periods were relatively short and differentiation between treatment failure and reinfection was not always possible.

The study described here presents the results of a comparison between seven and 14 day courses of erythromycin stearate 500 mg twice daily in the treatment of chlamydial infection of the cervix.

## Patients and methods

We admitted to the study 200 women attending the departments of genitourinary medicine at Glasgow

Royal Infirmary and the Southern General Hospital, Glasgow between June 1982 and June 1983, from whom *C trachomatis* was isolated. Women with concurrent infections, such as gonorrhoea, pelvic inflammatory disease, or urinary tract infection requiring antimicrobial treatment were excluded. The patients were allocated in sequential order to one of the two previously randomised oral treatment regimens: erythromycin stearate 500 mg twice daily for seven days or erythromycin stearate 500 mg twice daily for 14 days. The study was performed on a single blind basis. Follow up visits were at about three, seven, and 12 weeks after the start of the treatment. Cervical specimens for the isolation of *C trachomatis* were taken at every visit. The appearance of the cervix and the presence or absence of cervicitis was noted. Cervicitis was defined as the presence of a mucopurulent cervical discharge, oedematous cervical ectopy, or both.<sup>10</sup> At every visit the women were asked about sexual intercourse after treatment. Where possible, sexual partners were examined and treated if necessary.

## LABORATORY METHODS

*C trachomatis* strains were isolated using either the method described by Ripa and Mardh<sup>11</sup> or that described by Harper *et al.*<sup>12</sup> Both methods used McCoy cells in tissue culture and were interchangeable because they gave identical results.

Statistical analysis was performed by the  $\chi^2$  test using Yates's correction.

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## Results

Thirty five women who were enrolled into the study defaulted and could not be followed. Of the 165 who attended for at least one follow up visit, eight were withdrawn from the study because of failure to complete treatment. After treatment *C trachomatis* was isolated from 16/80 (20%) women who had been treated for seven days and from 26/77 (34%) who had been treated for 14 days. The detailed results are shown in the table. The differences between the two groups were not significant ( $\chi^2 = 2.95$ ;  $p > 0.05$ ). Both groups of women were similar in terms of age, marital status, contraceptive practice, and number of sexual partners.

TABLE Reisolation of *C trachomatis* after treatment with erythromycin stearate 500 mg twice daily (No of possible reinfections in parentheses)

Weeks after completion of treatment	No of isolations/No of patients examined	
	Treated for 7 days	Treated for 14 days
1-2	5(4)/53	10(8)/71
3-4	3(3)/22	0/7
5-6	3(2)/27	5(2)/31
7-9	4(3)/23	4(2)/19
≥10	1(0)/29	7(3)/24

Reisolation of chlamydiae after treatment was regarded as possible reinfection in women who had had intercourse subsequently with a partner who was not known to be chlamydia negative. If these possible reinfections were excluded from analysis, the cure rates for the seven and 14 day treatment regimens were 94% (64/68) and 82% (51/62) respectively. This difference was not significant ( $\chi^2 = 3.38$ ;  $p > 0.05$ ).

Default reduced the numbers available for long term follow up. In women who were examined 10-16 weeks after completion of treatment, chlamydiae were reisolated from 1/29 of those treated for seven days and from 7/24 of those treated for 14 days (table).

Clinical cervicitis was recorded in only 12 patients in each group and was present after eradication of chlamydia in five from each group.

There were no serious complications of treatment, but three women treated for seven days and five treated for 14 days were unable to complete the prescribed treatment because of epigastric discomfort or nausea.

## Discussion

Although several studies have shown the activity of erythromycin and other antimicrobials in chlamydial infections in women,<sup>4-6 9 13</sup> direct comparisons are difficult because of differences of dosage and

duration of treatment. Oriel and Ridgway showed that erythromycin stearate was as effective as oxytetracycline when given for 14 days.<sup>6</sup> The results of our survey show that a seven day course of erythromycin stearate 500 mg twice daily is as effective in eradicating chlamydiae from the cervix as a 14 day course. There was no difference in clinical response between the two groups, and no suggestion that latency was more likely to occur after the shorter course.

Rather surprisingly, *C trachomatis* was isolated after treatment more often in the group who had been treated for 14 days. This difference was not significant, and was presumably due to chance. Both groups of women were similar in all recorded variables.

Clinical cervicitis was recorded in only 24 of 157 chlamydia positive women in this study, and responded variably to treatment. This is in accord with previous studies, which have shown that the clinical appearance of the cervix is not a reliable indicator of the presence of chlamydial infection.<sup>10 14</sup> Assessment of cure of chlamydial cervical infection is therefore dependent, as is its initial diagnosis, on laboratory tests.

The possibility that chlamydial infection might become latent after treatment has been suggested.<sup>15</sup> In this study 53 women were examined 10-16 weeks after the completion of treatment. *C trachomatis* was isolated from eight, five of whom claimed to have had no intercourse since treatment; four of these had been given treatment for 14 days. All had had at least one negative culture after treatment. Although numbers were very small, the possibility of latent infection cannot be excluded.

Erythromycin stearate 500 mg twice daily given for seven days appears to be a safe, well tolerated, and effective treatment for uncomplicated chlamydial infection of the cervix.

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